

## Sanitary Sewers: Principles & Applications



Course code: 10008373

Sewerage has been essential for safeguarding public health since the early days of Hong Kong's urban development, and particularly since 1970s for inland and coastal water pollution control. For a more sustainable socio-economic development in times of climate change, a comprehensive sewerage infrastructure has become increasingly important for Hong Kong.

This course aims to equip participants with skills on sewerage infrastructure planning, sewerage projects investigation, design, construction and operation & management. It addresses Gravity Sewers, Sewage Rising Mains and Sewage Pumping Stations in accordance with the Sewerage Manual (Parts 1 and 2) of the Drainage Services Department (DSD). This course will be conducted in a series of lectures by a local expert.

### About the Speaker

Ir Prof. CHAN Pak Keung has over thirty years' experience in Civil and Environmental Engineering. He had spent sixteen years working as a Chief Engineer/Assistant Director in DSD amongst flood management, major wastewater engineering projects, the Research & Development initiatives of DSD, Operation and Maintenance, as well as Sewerage & Drainage Systems. Thereafter, he has been active in Civil & Environmental Engineering Education by being a Professor in HKU and PolyU. In recognition of his contributions to major hydro-environment engineering projects in HK, Ir Prof. CHAN Pak Keung was awarded as an honorary fellow of the Hong Kong Chapter of the International Association of Hydro-environment Engineering & Research (IAHR-HK) and he is an honorary advisor of the China Hong Kong Society of Trenchless Technologies (CHKSTT).

<b>Date:</b>	<b>24 &amp; 31 July 2019</b>
<b>Time:</b>	<b>09:00-17:30</b>
<b>Venue:</b>	<b>HKPC Building, 78 Tat Chee Avenue, Kowloon</b>
<b>Medium of Instruction:</b>	<b>Cantonese (Teaching materials will be in English)</b>
<b>Course fee:</b>	<b>HK\$4,600 per person</b>
<b>Award of certificate:</b>	<b>“Certificate of Completion” will be issued to participants who have attained full attendance</b>

#### Enrolment method

Please send the completed enrollment form to us by email ([phoebechan@hkpc.org](mailto:phoebechan@hkpc.org)) **on or before 15 July 2019**. Upon notification of enrolment acceptance, full payment should be made within 7 days.

**Application is handled on a first-come-first-served basis.**

#### Enquiry

Ms. Phoebe Chan

Tel: 2788 5948

Email: [phoebechan@hkpc.org](mailto:phoebechan@hkpc.org)

## Course Outline:

### 0. Preliminaries

- Course Introduction
- Briefing on Case Study

### 1. Overall System Planning

- Introduction
- Sewerage Layout and Profiles
- Sewage Flow Estimations

### 2. Gravity Sewers

- Hydraulic Design
- Septicity Problems
- Structural Design
- Manholes and Chambers

### 3. Pumps and Pumping Systems

- Centrifugal Pumps in Preference to Screw Pumps
- Hydraulics of Centrifugal Pumping System
- Pump Characteristic Curves
- Choice of nos. of Pumps and Rising Mains
- Cavitation Design
- Constant Speed Pumping in Comparison with Variable Speed Pumping

### 4. Centrifugal Pumping Stations and Rising Mains

- Layout Options
- Electricity Supply and Motors
- Wet Well Design
- Surge Analysis & Suppression for Rising Mains
- Air Release Valves and Drain Valves for Rising Mains
- Discharge Chamber

### 5. Miscellaneous

- Instrumentation for Real-time Sewage Level and Flow Data Monitoring and Operation Control of Pumps
- Septicity Management
- Ventilation
- Noise Control
- Aesthetics
- Lightning Protection

# Enrollment Form

## 報名表

### Training on Sewerage - Principles and Applications (24 & 31 July 2019)

**Company  
Name:**

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**Address:**

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**Name of Participant:**

	Title*	English name (Please provide the full name which will be printed on the certificate)		Position	Phone No.	E-mail Address
		Last name	First name			
1)	Mr./Miss/ Mrs./Ms.					
2)	Mr./Miss/ Mrs./Ms.					
3)	Mr./Miss/ Mrs./Ms.					
4)	Mr./Miss/ Mrs./Ms.					

**Method of payment:**

Please select one only:

- Payment by Cash / EPS \* – Must be made in person at enrollment counter, on 1/F of HKPC Building, 78 Tat Chee Avenue, Kowloon Tong (Opening hours: Mon-Fri 09:00-21:00 / Sat 09:00-17:00)
- Payment by Cheque – The cheque has to be crossed and made payable to the “Hong Kong Productivity Council”, and sent to 3/F HKPC Building, 78 Tat Chee Avenue, Kowloon, Attn: Phoebe Chan (Please mark the programme title and course code on the envelope.)

\* Please delete whichever is inappropriate.

# Enrollment Form

## 報名表

### Terms and conditions:

1. Programme fee must be submitted together with this form (or photocopy of this form) before programme commencement, otherwise enrolment will be rejected.
2. Personal Data collected will be used for processing your application for admission, registration, academic, administrative, research and statistical purposes and will also be used for marketing purposes, specifically for the purpose of sending you information relating to HKPC's latest developments, industry support services, consultancy services, events and training programmes. Personal Data will be treated in strict confidence. Unless otherwise agreed by you, HKPC will not transfer Personal Data to any third parties. HKPC implements a policy governing the collection, use and retention of Personal Data, which is made available at the enrolment counter. You may also contact Personal Data Controlling Officer of HKPC for further details.
3. Amount received will be imprinted on the official receipt. Only receipt printed with receipt printers at HKPC is valid. Receipt of cheque payment is subject to bank clearance.
4. Enrolment fee (in full or in part) is not refundable except if HKPC is notified in writing of your withdrawal at least 5 working days before the programme commencement for training program. A handling charge of **HK\$200** will be levied.
5. You may, subject to the prior approval of HKPC, nominate a person to attend the programme on your behalf. Programme switching request will not be accepted.
6. HKPC reserves the right to reject any application in any circumstances and for whatever reasons. Payment of fees should only be construed as conditional acceptance of application. To be accepted for any application, you are required to fulfill the admission requirements.
7. HKPC reserves the right to replace the speaker and/ or change the contents, venue and/or time as may be necessary.
8. Classes in the morning (09:00-13:00), afternoon (14:00-17:00) or evening (18:30-22:00) will be cancelled if:  
(1) Tropical Cyclone Signal No.8 or above OR Black Rainstorm Warning remains hoisted after 6:00 a.m., 11:00 a.m. and 4:00 p.m. respectively; OR  
(2) Tropical Cyclone Signal No.8 or above OR Black Rainstorm Warning is announced by the Hong Kong Observatory to be hoisted at/after 6:00 a.m., 11:00 a.m. and 4:00 p.m. respectively.  
You will be notified of the re-scheduling arrangement as soon as possible.
9. These terms and conditions are subject to revisions as may be set out in the programme pamphlets and the latest updates in the Institute's website.

### Declaration :

I declare that all information provided in this enrolment form and the accompanying documents are, to the best of my knowledge, true, accurate and complete. I have **read and accepted** all the terms and conditions of this enrolment form.

- I object to the proposed use of my personal data including, without limitation, name, gender, phone number, job title, payment details including credit card information (where applicable), correspondence address and email address ("**Personal Data**") for the purpose of sending me information relating to HKPC's latest developments, industry support services, consultancy services, training courses and related events, and other marketing activities as may be organized by HKPC.

Applicant's  
Signature :

Date :

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